

## CLAIMS

What is claimed is:

1. A low-noise block (LNB) control device capable of controlling modulation of an alternating waveform on a direct current (DC) voltage from a DC power supply to an LNB amplifier, said LNB control device comprising:

an LNB signalling module for providing a switch control signal and a modulating waveform; and

a switch circuit for selectively sending said modulating waveform to a summing circuit external to said LNB control device according to said switch control signal, wherein said summing circuit adds said modulating waveform to said DC voltage.

1        2.        The LNB control device of Claim 1, wherein said LNB control device further  
2 includes a power supply control module for receiving a power supply feedback signal from  
3 said DC power supply, and for sending a control signal to said DC power supply in  
4 response to said received power supply feedback signal.

1        3.        The LNB control device of Claim 1, wherein said LNB control device further  
2 includes a high impedance resistor.

1        4.        The LNB control device of Claim 1, wherein said LNB control device further  
2 includes a modulating voltage source and an offset voltage source.

1        5.        The LNB control device of Claim 1, wherein said switch circuit includes at least one  
2 transistor.

1        6.        The LNB control device of Claim 1, wherein said summing circuit includes a  
2 resistor, a capacitor and a transistor.

1        7.        The LNB control device of Claim 6, wherein said transistor is a darlington NPN  
2 transistor.

1        8.        The LNB control device of Claim 1, wherein said LNB control device is further  
2 coupled to a filter.

1        9.        The LNB control device of Claim 8, wherein said filter includes an inductor and  
2        resistor.

1        10.        The LNB control device of Claim 9, wherein said filter includes a capacitor.

1        11.    A satellite receiver comprising:

2                    a DC power supply for providing a DC signal;

3                    a filter circuit, coupled to said DC power supply, for filtering said DC  
4                    signal;

5                    a low-noise block (LNB) control device, coupled to said DC power supply,  
6                    for providing a power supply control signal to and receiving a power supply  
7                    feedback signal from said DC power supply, and for generating a modulating signal;  
8                    and

9                    a summing circuit, coupled to said LNB control device, for adding said  
10                    modulating signal to said DC signal.

1 12. The satellite receiver of Claim 11, wherein said filter circuit includes an inductor  
2 and a resistor.

1 13. The satellite receiver of Claim 11, wherein said filter circuit includes a capacitor.

1 14. The satellite receiver of Claim 11, wherein said LNB control device further includes

2 a power supply control module for receiving said power supply feedback  
3 signal from said DC power supply, and for sending said power supply control signal  
4 to said DC power supply in response to said received power supply feedback signal;

5 an LNB signalling module for providing a switch control signal and said  
6 modulating waveform; and

7 a switch circuit for selectively sending said modulating waveform to said  
8 summing circuit according to said switch control signal.

1 15. The satellite receiver of Claim 14, wherein said switch circuit includes at least one  
2 transistor.

1 16. The satellite receiver of Claim 14, wherein said LNB control device further includes  
2 a high impedance resistor.

1        17.     The satellite receiver of Claim 14, wherein said LNB control device further includes  
2        a modulating voltage source and an offset voltage source.

1        18.     The satellite receiver of Claim 11, wherein said summing circuit includes a resistor,  
2        a capacitor and a transistor.

1        19.     The satellite receiver of Claim 18, wherein said transistor is a darlington NPN  
2        transistor.